SECTION 1. General administrative information

Title of project:

A test, by Corps of Engineers personnel (1 to 4 people for 2 hours) at a dam site, of the herding of smolts past the dams (through the locks or down the fish ladders) by the sequential and timed (about 1 throw every 5 to 10 seconds) distribution of fish food.

Business name:

W. P. Allen & Co.,Inc.

This is not a request for funding, but merely a short test performed by Corps of Engineers personnel who currently work at a dam site.

Proposal contact person:

William Peter Allen, PE
W.P. Allen & Co.,Inc.
825 South Ford
McMinnville, OR 97128
503-434-4437
No fax or E Mail

Subcontractors:

There are no subcontractors.

NPPC Program Measure Numbers which this project addresses:

Unknown.

NMFS Biological Number which this project addresses:

Unknown.

Other planning document references:

Unknown.

Subbasin:

Any dam site within the Columbia River system.

Short description:

Feed the smolts past the dams.

SECTION 2. Key words

X- Anadromous fish	-- Contruction	-- Watershed
-- Resident fish	-- O&M	-- Biodiversity/genetics
-- Wildlife	-- Production	-- Population dynamics
-- Oceans/estuaries	X- Research	-- Ecosystems

-- Climate	-- Monitoring	X- Flow/survival
-- Other	-- Resource mgt	-- Fish disease
	-- Planning/ad	-- Supplementation
	-- Enforcement	-- Wildlife habitat
	-- Acquisitions	

SECTION 3. Objectives

1. Testing, to see if smolts stacked up behind a dam can be herded.

a. Get a bag of fish food from a hatchery.

b. Gather 1 to 4 Corps of Enginners people already at a dam site and tell them what to do.

c. Perform the 1 to 2 hour test.

d. Take video pictures of the test.

e. Write up the test and an estimate of results.

f. Submit video and write up to mgt.

Objective schedules and costs:

1. 2 hours anytime that smolts are running 0 cost.

Schedule constraints:

Only when smolts are running and stacked up behin a dam.

Completion date:

Any smolt run day during the spring of 1998 or 1999.

SECTION 5. Budget.

FY99 budget by line item:

Personnel	0
Fringe benefits	0
Supplies, materials	0
Operations/maint	0
Capital acquisitions	0
PIT tags	0
Travel	0
Indirect costs	0
Subcontracts	0
Other	0
TOTAL	0

Outyear costs:

Total budget	0	0	0	0
O&M as % of total	0	0	0	0

SECTION 6. Abstract

a. Unknown.

b. To test the ability to herd smolts by the sequential and time distribution of fish food on the waters behind a dam. If the test is successful, smolts may be herded to the locks or ladders, thus moving past the dams; people (retired fishermen, American Indians, school children, etc.) may be obtained immediately to feed the fish past all of the offending the dams. The lowering of dam water levels would not be required. Later, more automated equipment could be designed and built to perform this fish feeding task.

c. Unknown.

d. Unknown.

e. A great majority of the smolts can get past the dams without experiencing any nitrogen, predator, or impeller percentage reduction problems throughout all dams in the Columbia system. An increase in smolt migration in the Columbia will assist all other river smolt runs to the Pacific by an increase in numbers.

f. The test will be evaluated by video camera and estimates of the fish moved into the test dam’s locks as recorded on a written document by the Corps of Engineers dam supervisor.

SECTION 7. Project description

a. Technical and/or scientific background.

Smolt migration problems originated with the construction of Grand Coulee over 60 years ago. Many methods have been tried and many dollars have been spent, with little results. Chumming to herd fish is a proven fishing technique; it can be used to herd smolts and effectively move them around, or past, the dams.

There is no science to support this centuries old fishing technique.

b. Proposal objectives.

To perform a test of fish herding through the sequential and timed release (about 5 to 10 seconds between throws) of fish food as a man walks from the center of the dam to the locks. If successful, a new technique of fish migration (past the dams rather than through the dams) may be developed; if unsuccessful, it was 2 hours wasted by 1 to 4 (the additional 3 people may be required if there are physical obstructions that will not allow one man to walk from the center of the dam to the locks while staying near the water) Corps of Engineering personnel and a bag of fish food. Although chumming and fish herding is a proven technique, dam noise and distances could prove a problem.

It is hoped that all smolts (100% success) could then be herded past the dams; that the number of returning mature salmon will increase; that the fishing industry will be revived; that electrical power will not be reduced by the necessity to lower dam water levels; that the fish runs of other coastal rivers and streams will be improved due to increased Pacific numbers; that the program can be initiated immediately; that the cost to implement will be very small; that significant quantitative and qualitative results can be quickly achieved.

If the Columbia system can recover through feeding the smolts past the dams, fish ladders at Grand Coulee are needed to complete the task. Without Grand Coulee fish ladders, about 50% of the original fish habitat is lost.

A way to duplicate the Celilo Falls, lost through dam flooding, is also included. Although listed as a monument, it would actually be used for net fishing by Celilo Indians.

Sketches are attached and include:

- The idea of fish herding through fish feeding.
- Sequential fish feeding at a dam.
- A fish ladder funnel.
- A predator trap.
- The new Celilo Falls monument.
- An automated fish feeding system.

last

c. Rationale and significance to Regional Programs.

Unknown.

d. Project history.

None.

e. Methods.

A simple idea (the best engineering ideas are often times the most simplistic) followed by long days and hard work by people who care including commercial and sports fishermen, American Indians, school children (like the replanting project after the Tillamook burn), the people of the Pacific Northwest, and the Corps of Engineers while an automated system is being designed and built.

f. Facilities and equipment.

1 to 4 Corps of Engineering people for 2 hours, a bag of fish food donated by a hatchery, and a dam.

g. References.

None pertinent.

SECTION 8. Relationships to other projects

Unknown.

SECTION 9. Key personnel

For the test, only the 1 to 4 Corps of Engineers people working at the dam site.

William Peter Allen is a former commercial fisherman (operating his own boat out of Warrenton) and a professional engineer with experience in the missle and space, nuclear, jet aircraft, computer, and heavy and light manufacturing industries. He is also a former professor at PSU and a consulting engineer.

SECTION 10. Information/technology transfer

If it works big time, immediately, at little cost, the Portland Oregonian newspaper will tell the whole world.